

MULTI-FUNCTION OPTO-ELECTRONIC DETECTION APPARATUS

ABSTRACT

5 A multi-function opto-electronic detection apparatus for detecting molecular characteristics of a test sample. The apparatus comprises functional mode subsystems including a detecting light source subsystem for generating sampling beams for illuminating the test sample; a manipulation optics subsystem for aligning the sampling beam onto the test sample; a target signal processing subsystem for analyzing target beams emerging from the test sample resulting from the illuminating of the sampling beam; and a sample fixation
10 subsystem for holding the test sample. The detecting light source subsystem, manipulation optics subsystem and target signal processing subsystem are assembled into one of several possible optical sampling setups for the detection characteristics of the test sample. The functional mode setups include at least ellipsometer, confocal image scanner, photon tunneling scanning microscope and interferometer.